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Comparative analysis of algorithm for solving teaching objectives in four language environments

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Abstract

© Research India Publications. In this article, we present the results of comparative analysis of five popular programming languages – three of which are compilable ones(C#, C++, Pascal) and two interpreted languages (Java and Python). Analysis has been performed in the base of comparison of implementation of various algorithms for solving of classical tasks from the discipline called “Computer technology and programming”, as well as the discipline “Programming languages”. Tasks for finding GCD (greatest common divisor) were used, as well as sorting of integral values’ array, search in ordered array of integral values, and substring searching in the string. In addition, we provided indices of read rate and record rate, exemplified by reading array of integers from text fine, as well as recoding array of integers into text file. Comparison has been made according to the following three criteria: finite code length, weigh of executable file, program execution time at various tests. For illustrative purposes, obtained results are shown in diagrams with clarifications and summary results.

Keywords

Comparative analysis, Program engineering, Programming languages